CONTROLLING ACCESS TO DOCUMENTS USING FILE LOCKS

BACKGROUND

[0001] It is often desirable to allow multiple users to coauthor a document file. However, not all software applications support coauthoring. Often, one version of a software application, typically a newer one, may permit coauthoring, and a legacy version of the software application may not. It is desirable to provide a degree of backward compatibility in a coauthoring system to ensure that newer software applications can share access to a document file, that legacy software applications can also access the document file, and that legacy applications do not inadvertently disrupt coauthoring data or the coauthoring process.

SUMMARY

[0002] The present disclosure relates to systems and methods for controlling access to document files stored on a server.

[0003] According to one aspect, a system for controlling access to document files on a document server includes one or more document files stored on a document server, at least one of the document files referencing a file lock stored on the document server, and a document access processing module. The document access processing module includes a file sharing processing module that determines a coauthoring status of a software application of a client computer requesting access to the document file, and a file lock processing module that stores one or more file locks and that controls the setting and resetting of file locks. The document access processing module uses the coauthoring status of the software application and the file lock status of a document file to determine whether a software application is permitted to have write access to the document file.

[0004] According to another aspect, a method for controlling access to document files includes: receiving a request from a software application to access a document file on a server; determining a coauthoring status of the software application; determining a file lock status of the document file; permitting write access to the document file if the software application supports coauthoring and the file lock status permits coauthoring; and denying write access to the document file if the file lock status permits coauthoring but the software application does not permit coauthoring.

[0005] According to yet another aspect, a method for controlling access to document files stored on a document server includes: receiving a request at a document server to set a lock that designates a document file for shared access, the request being made when the document file is closed, and the request being made independently of a request by a software application to access the document file; setting a first lock for the document file, the first lock preventing software applications that do not support coauthoring from writing to the document file; receiving a request from a first software application to access the document file; determining whether the first software application permits coauthoring; permitting write-access to the document file if the first software application permits coauthoring; setting a second lock for the document file if the first software application permits coauthoring, the second lock permitting additional software applications that support coauthoring to have write-access to the document file; and denying write-access to the document file if the first software application does not permit coauthoring.

[0006] This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used to limit the scope of the claimed subject matter.

DESCRIPTION OF THE DRAWINGS

[0007] The accompanying drawings incorporated in and forming a part of the specification illustrate several aspects of the present disclosure, and together with the description serve to explain the principles of the disclosure. In the drawings:

[0008] FIG. **1** shows an example system for controlling access to document files.

[0009] FIG. **2** shows an example client that includes both legacy and non-legacy applications.

[0010] FIG. **3** shows an example document server that includes a document access processing module and document files.

[0011] FIG. **4** shows an example document access processing module that includes a file sharing processing module and a file lock processing module.

[0012] FIG. **5** shows an example method for controlling access to coauthorable server document files.

[0013] FIG. **6** shows another example method for controlling access to coauthorable server document files.

DETAILED DESCRIPTION

[0014] The present application is directed to systems and methods for controlling access to document files. In examples described herein, the systems and methods use file locks referenced by the document file to determine if and when coauthoring permission should be granted. The system sets and resets the file locks as appropriate based on access requests for the document file by software applications that support coauthoring and by specific user actions that request a coauthoring file lock. In addition, the systems and methods use the file locks to permit legacy applications that do not support coauthoring to access the document file.

[0015] As used herein, the term "coauthoring" refers to the ability of multiple users to simultaneously edit a document file. As used herein, the term "document file" refers to a self-contained piece of work created with an application program.

[0016] A document file can be any file that can be accessed by a software application on a client. For example, a document file can be a file created using a word processing application such as Microsoft Word, a spreadsheet document created using a spreadsheet application such as the EXCEL® spreadsheet software from Microsoft Corporation, or a presentation document created using a presentation application such as the POWERPOINT® presentation graphics program from Microsoft Corporation. As such, a document file can include lists, tables, graphics objects, etc. These are examples only and other types of document files can be used.

[0017] FIG. **1** shows an example system **100** that supports coauthoring of document files. The system includes clients **101**, **102** and one or more document servers **104**. More or fewer clients and document servers can be used.

[0018] The clients **101**, **102** include software applications, for example word processing programs, that are used to create and edit document files. In example embodiments, the clients **101**, **102** are a computing device, such as a desktop computer,